

Report of  
the Retirement System  
of the State of Montana  
actuarial  
evaluation as of  
July 1

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TEACHERS' RETIREMENT SYSTEM

STATE OF MONTANA

ACTUARIAL VALUATION

AS OF JULY 1, 1981

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## SECTION I

### INTRODUCTION

An actuarial valuation of the Teachers' Retirement System of the State of Montana has been completed as of July 1, 1981. This valuation was authorized by the Teachers' Retirement Board under Section 19-4-201, M.R.C. The purpose of the valuation was to determine the financial position of the fund, the normal cost, and the unfunded accrued liability based upon present and prospective assets and liabilities of the system as of July 1, 1981.


Section II presents an analysis of the results of the actuarial valuation. The numerical findings supporting this analysis are shown in Section III.

In conducting the actuarial valuation, certain assumptions were made as to the future experience of the system. A summary and discussion of each of the assumptions is contained in Section IV.

The valuation is based upon the Teachers' Retirement Act and incorporates all amendments as of July 1, 1981. Employee data and other records supplied by the system are summarized by classification in Section V and VI. A summary of the major provisions of the Act is contained in Section VII.

### ACTUARIAL CERTIFICATION

Based upon the assumptions stated in this report and the employee data and other records provided by the Teachers' Retirement System, the actuarial valuation contained in this report has been performed in accordance with generally accepted actuarial principles and techniques.

  
Alton P. Hendrickson  
Member, American Academy  
of Actuaries



## SECTION II

### ANALYSIS OF VALUATION OF TEACHERS' RETIREMENT SYSTEM

#### Summary of Findings

Based on the valuation which was conducted as of July 1, 1981, we have concluded that the Montana Teachers' Retirement System is funded on an actuarially sound basis. The present contribution rate of 12.619% of salaries is sufficient to finance the cost of benefits as they accrue in the future as well as to amortize the current unfunded liability over a period of 48.50 years. If the unfunded liability is to be funded over a recommended period of 40 years, the required contribution rate would be 13.339% of salaries.

The previous valuation as of July 1, 1979 was based on a contribution rate of 12.499% of salaries. This rate was increased to 12.619% by the 1981 Legislature to fund supplemental benefits to retirees. The 1979 valuation determined that a rate of 13.089% would be required to fund the unfunded liability over a recommended period of 40 years. The increased rate of 13.339% of salaries recommended by the 1981 valuation is partially attributable to the supplemental benefits to retirees.

The current amortization period of the unfunded liability based on the statutory contribution rates has increased from 48.15 years in 1979 to 48.50 years in 1981. There were many offsetting factors which resulted in this slight increase, as discussed below.

#### Active Members

There were three factors pertaining to active members which substantially affected the results of this valuation:

1. In reviewing the data which had been prepared for the July 1, 1981 actuarial valuation, the Teachers' Retirement System determined that a majority of the salaries had been miscalculated. This miscalculation was found to have occurred in a computer program which had been prepared in 1975 by the State's data processing division for the sole purpose of extracting data for the actuarial valuation. The program inappropriately annualized all salaries, which resulted in salaries paid under a ten month contract being overstated by 20%.



The computer program was corrected and the salaries recalculated. From the revised figures, it was determined that the previous salaries had been overstated, in aggregate, by 18.6%. It was further determined that the salaries had been overstated in the previous three actuarial valuations.

A valuation was performed to determine the magnitude of the error generated by the inaccurate data. This valuation determined that the amortization period had been understated by 3.03 years and that the 40 year funding rate had been understated by .266%.

2. A major reduction in the funding requirements resulted from legislation pertaining to the handling of termination pay. A member may now (1) use the full amount in the calculation of the average final compensation by adequately compensating the System for the additional benefits, (2) pay the regular contribution on the termination pay and average such pay over all years of creditable service, or (3) exclude the pay from the average final compensation and make no additional contributions. Previously, termination pay was used to determine the final average compensation, with only regular contributions required.

This legislative change resulted in a reduction of .474% in the rate of salaries required to fund the benefits. This amount was sufficient to reduce the period of amortization of the unfunded liability by 6.39 years.

3. As a customary part of the valuation, we conducted a study to compare the actuarial assumptions against the actual experience of the System. The study revealed that the number of members receiving disability benefits is higher than had been projected by the actuarial assumptions. The study was based upon disabilities in the last eight years and determined that an increase in the disability rate assumptions was warranted.

A similar study of the withdrawal rates concluded that the number of actual terminations was less than had been projected. In setting new long-term withdrawal rate assumptions, consideration was given to the current state of the economy which would tend to discourage terminations. It was also recognized that some school districts have had a reduction in personnel due to reduced enrollment.

The net result of the change in the disability and withdrawal assumptions was an increase in the funding rate of .201%. This resulted in an increase in the amortization period of 2.70 years.



The net effect of the disability rate changes was minor because the increased liability for disability tended to offset the liability for retirements. The majority of the funding rate increase was attributable to the change in the withdrawal assumptions. A summary of the new actuarial assumptions is shown in Section IV.

### Inactive Members

The liability for inactive lives increased substantially from the previous valuation. This increase was mainly attributable to the increase in average monthly benefits. The average monthly benefits for the retirees, disableds and survivors increased from \$337 to \$417. The increase in average benefits resulted from new retirees as well as supplemental benefits granted by the 1981 Legislature. The \$300 minimum benefit had the largest impact upon the average benefits.

An additional funding rate of .12% of salaries was approved by the Legislature to finance the cost of supplemental benefits to retirees.

The liability for disability benefits increased disproportionately because of a reclassification of disabilities in this valuation. Some disableds had previously been included under the category of retirement rather than disability.

### General

The Teachers' Retirement System has made a concerted effort during the last two years to improve the quality of the data provided for the actuarial valuation. As a result, the data is more complete; in fact, no pertinent information was missing for inactive members. A sampling of the data has also shown the information to be quite accurate.

Our examination of the data leaves us no reason to believe that any major errors exist in the information used in this valuation. The computer calculations used to extract salary data for previous valuations were unfortunately in error, as discussed above. It is important that this discrepancy be considered when comparing the results of this valuation with previous valuations.

A detailed summary of the members, salaries, and benefits is illustrated in Section VI of this report. The active members have been categorized into full-time and part-time members in order to prevent any distortion of the average salaries.



SECTION III  
SCHEDULE A  
NORMAL COST ALLOCATION

(1) Normal Cost Contribution Rate:

(a) Retirement	5.160%
(b) Death	.410
(c) Disability	.320
(d) Vested Terminations	.812
(e) Withdrawals	<u>1.085</u>
(f) Total Rate	7.787%

(2) Present Value of Future Salaries  
Of Current Members \$2,290,402,951

(3) Present Value of Future Normal Costs  
For Current Members (1(f) \* (2)) \$ 178,353,678



SCHEDULE B  
CONTRIBUTION AND LIABILITY ALLOCATIONS

(1) Unfunded Accrued Liability

(a) Present Value of Benefits	\$ 807,543,614
(b) Present Value of Future Normal Costs	178,353,678
(c) Fund Assets	<u>226,577,611</u>
(d) Unfunded Liability (a)-(b)-(c)	\$ 402,612,325

(2) Contribution Rates Amortized over 40.00 Years

(a) Present Value of Salaries During Next 40.00 Years	\$7,251,629,810
(b) Unfunded Contribution Rate 1(d)/2(a)	5.552%
(c) Normal Cost Rate (Schedule 1)	<u>7.787%</u>
(d) Total Funding Rate	13.339%

(3) Contribution Rates Amortized over 48.50 Years

(a) Present Value of Salaries During Next 48.50 Years	\$8,332,271,952
(b) Unfunded Contribution Rate 1(d)/3(a)	4.832%
(c) Normal Cost Rate (Schedule 1)	<u>7.787%</u>
(d) Total Funding Rate	12.619%



SCHEDULE C  
PRESENT VALUE OF BENEFITS

(1) Present Value of Benefits - Inactive Members		
(a) Retirement	\$192,236,817	
(b) Death	15,250,194	
(c) Disability	8,832,519	
(d) Vested Terminations	6,546,635	
(e) Withdrawals	2,213,625	
(f) Tax Sheltered Annuity	1,219,338	
(g) Excess Interest Payment	<u>52,375</u>	
(h)		\$226,351,503
(2) Present Value of Benefits - Active Members		
(a) Retirement	\$431,053,296	
(b) Death	28,760,851	
(c) Disability	18,749,343	
(d) Vested	54,636,739	
(e) Withdrawals	45,331,310	
(f) Tax Sheltered Annuity	2,620,206	
(g) Legacy Fund	<u>40,366</u>	
(h) Total Active		<u>\$581,192,111</u>
(3) Total Liabilities		\$807,543,614 =====



## SECTION IV

### ACTUARIAL FUNDING METHOD AND ASSUMPTIONS

The true cost of the Teachers' Retirement System will be determined by its own future experience. In determining the financial requirement of a system, certain assumptions must be made as to the expected future experience. This section summarizes the funding method applied as well as the basic assumptions used.

Any variations in the actual experience of the system from those assumed in this valuation may cause changes in the projected future costs of the system. It is therefore necessary that the actuarial assumptions be reviewed from time to time with adjustments as experience warrants. It is also important that regular valuations be performed to determine the financial effect of variations between the actual and assumed experience.

The assumptions shown below were based upon the actual past experience of the system together with our projections as to future experience.

#### FUNDING METHOD

The method of funding employed is commonly referred to as the entry age normal cost method. This method establishes a normal cost of the system as well as an unfunded accrued liability. The normal cost is the level percentage of total salaries required to fund the benefits, assuming this percentage had been contributed since each member's entry into the system.

The unfunded accrued liability represents the excess of the present value of total liabilities over the present assets of the system and the present value of expected future contributions for normal costs.

In order to maintain the system on an actuarially sound basis, the total rate of contribution should be such as to meet the normal cost in addition to making progress towards the amortization of the unfunded accrued liability.



### MORTALITY RATES

The mortality rates for males and females are based upon a published table referred to as the 1971 Group Annuity Mortality Table. The expected annual rates of mortality for selected ages are shown below:

<u>Age</u>	<u>Female</u>	<u>Male</u>
25	.035%	.062%
30	.047	.081
35	.065	.112
40	.094	.163
45	.140	.292
50	.215	.529
55	.326	.852
60	.549	1.312
65	.956	2.126
70	1.648	3.611
75	3.239	5.529
80	5.609	8.743
85	8.918	13.010
90	13.858	17.945

### DISABILITY RATES

The disability rates are based upon the ordinary disability rates published by the Railroad Retirement Board in its eighth valuation, with modifications to reflect the Teachers' Retirement System's experience. The expected annual rates of disability for selected ages are shown below:

<u>Age</u>	<u>Annual Rate of Disability</u>
25	.024%
30	.024
35	.032
40	.072
45	.152
50	.272
55	.496
60	1.586



### WITHDRAWAL RATES

The withdrawal rates are based upon a recent study of the experience of the Teachers' Retirement System. Sample rates are shown below:

<u>Age</u>	<u>Annual Rate of Withdrawal</u>
25	14.50%
30	12.05
35	9.93
40	7.95
45	5.60
50	3.10
55	1.90
60	1.40

### FUTURE SALARIES

The rates of future salary increases are based upon a recent study of longevity and meritorious increases by age. In addition to the base increases, an inflationary increase of 5½% per year is assumed. Sample rates are shown below for longevity and meritorious increases as well as total annual increases:

<u>Age</u>	<u>Longevity and Meritorious</u>	<u>Total</u>
20	3.90%	9.61%
25	3.40	9.09
30	3.00	8.67
35	2.10	7.72
40	1.10	6.66
45	.60	6.13
50	.50	6.03
55	.50	6.03
60	.50	6.03



#### RETIREMENT RATES

Based upon a recent study of the experience of the Teachers' Retirement System, retirements were assumed to occur at an average age of 62. The retirement age was appropriately adjusted for those members who had less than five years of service and for those who had already attained the average retirement age.

#### INVESTMENT EARNINGS

The annual rate of net return was assumed to be 7% for future investment earnings.

#### EXPENSES

The administrative expenses are assumed to be paid from investment income in excess of the assumed rate of 7%.

#### ASSETS

The security investments are valued at amortized book value. The real estate mortgages are valued at full principle value.



SECTION V  
COMPARISON SUMMARY

	<u>Fiscal Year Ended 1979</u>	<u>Fiscal Year Ended 1981</u>
Present Value of Benefits	\$739,207,759	\$807,543,614
Present Value of Normal Costs	208,880,426	178,353,678
Unfunded Accrued Liability	354,351,575	402,615,381
Assets	\$175,975,758	\$226,577,611
Active Members		
Number of Lives	15,122	14,055
Annual Payroll	\$246,085,408	\$237,411,637
Inactive Members		
Number of Lives	4,529	4,885
Monthly Benefits	\$ 1,527,664	\$ 2,022,079
Contributions Based on Payroll		
Employer Share	\$ 15,532,911	\$ 15,270,316
Employee Share	\$ 15,225,304	\$ 14,688,658



SECTION VI  
SUMMARY OF DATA

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Full-time Active Members	
Number of Members	14
Annual Salaries	15
Average Salaries	16
Part-time Active Members	
Numbers of Members	17
Annual Salaries	18
Average Salaries	19
Retired Members	20
Disabled Members	21
Survivors' Benefits	22
Children's Benefits	23



# NUMBER OF FULL-TIME ACTIVE MEMBERS

COMPLETED YEARS OF SERVICE	MALES										
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	TOTAL
0-4	72	593	472	243	110	72	42	21	3	1	1629
5-9		115	656	448	166	77	42	12	12	3	1531
10-14			139	528	390	172	65	28	11	3	1336
15-19				76	273	206	82	50	12	3	702
20-24					58	236	104	34	9	2	443
25-29						39	173	71	25	2	310
30-34							41	98	38	2	179
35-39								21	32	3	56
40-UP									3		3
TOTAL	72	708	1267	1295	997	802	549	335	145	19	6189

COMPLETED YEARS OF SERVICE	FEMALES										
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	TOTAL
0-4	283	1081	544	327	198	106	57	24	9	2	2631
5-9		260	660	307	193	155	92	39	19	3	1728
10-14			178	304	211	149	144	78	32	10	1106
15-19				73	119	90	91	63	44	6	486
20-24					31	61	72	52	44	10	270
25-29						32	48	36	42	8	166
30-34							19	26	27	2	74
35-39								11	21	4	36
40-UP									8	4	12
TOTAL	283	1341	1382	1011	752	593	523	329	246	49	6509

COMPLETED YEARS OF SERVICE	TOTAL										
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	TOTAL
0-4	355	1674	1016	570	308	178	99	45	12	3	4260
5-9		375	1316	755	359	232	134	51	31	6	3259
10-14			317	832	601	321	209	106	43	13	2442
15-19				149	392	296	173	113	56	9	1188
20-24					89	297	176	86	53	12	713
25-29						71	221	107	67	10	476
30-34							60	124	65	4	253
35-39								32	53	7	92
40-UP									11	4	15
TOTAL	355	2049	2649	2306	1749	1395	1072	664	391	68	12698



ANNUAL SALARIES OF FULL-TIME ACTIVE MEMBERS  
IN THOUSANDS

COMPLETED YEARS OF		MALES									
SERVICE	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	TOTAL
0-4	883	8125	7418	4596	2156	1492	1063	554	64	19	26370
5-9		1733	11270	8772	3599	1715	1006	243	228	89	28655
10-14			2732	11071	8932	4041	1562	606	243	70	29257
15-19				1752	6438	5112	2036	1212	324	65	16939
20-24					1460	5781	2583	818	224	42	10908
25-29						1105	4493	1788	656	48	8090
30-34							1083	2718	997	58	4856
35-39								597	903	95	1595
40-UP									86		86
TOTAL	883	9858	21420	26191	22585	19246	13826	8536	3725	486	126756

COMPLETED YEARS OF		FEMALES									
SERVICE	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	TOTAL
0-4	3222	13556	7473	4559	2705	1458	843	332	128	13	34289
5-9		3668	10271	5026	3195	2507	1463	623	293	51	27097
10-14			3137	5744	4032	2705	2625	1408	562	176	20389
15-19				1460	2300	1773	1741	1191	772	106	9343
20-24					656	1246	1430	1026	821	200	5379
25-29						698	955	693	814	164	3324
30-34							373	550	551	47	1521
35-39								212	453	78	743
40-UP									185	76	261
TOTAL	3222	17224	20881	16789	12888	10387	9430	6035	4579	911	102346

COMPLETED YEARS OF		TOTAL									
SERVICE	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	TOTAL
0-4	4105	21681	14891	9155	4861	2950	1906	886	192	32	60659
5-9		5401	21541	13798	6794	4222	2469	866	521	140	55752
10-14			5869	16815	12964	6746	4187	2014	805	246	49646
15-19				3212	8738	6885	3777	2403	1096	171	26282
20-24					2116	7027	4013	1844	1045	242	16287
25-29						1803	5448	2481	1470	212	11414
30-34							1456	3268	1548	105	6377
35-39								809	1356	173	2338
40-UP									271	76	347
TOTAL	4105	27082	42301	42980	35473	29633	23256	14571	8304	1397	229102



# AVERAGE SALARIES OF FULL-TIME ACTIVE MEMBERS

COMPLETED YEARS OF SERVICE	MALES										
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	TOTAL
0-4	12267	13701	15717	18913	19604	20716	25299	26374	21329	18500	16187
5-9		15068	17180	19580	21680	22271	23945	20240	18993	29501	18715
10-14			19655	20969	22901	23492	24023	21652	22054	23468	21899
15-19				23048	23584	24815	24831	24244	27013	21688	24130
20-24					25179	24496	24835	24072	24904	20872	24624
25-29						28339	25969	25189	26247	24211	26100
30-34							26412	27735	26231	29076	27128
35-39								28409	28218	31568	28469
40-UP									28568		28568
TOTAL	12267	13923	16906	20224	22654	23997	25181	25483	25686	25552	20480

COMPLETED YEARS OF SERVICE	FEMALES										
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	TOTAL
0-4	11386	12540	13736	13941	13661	13757	14795	13819	14181	6500	13032
5-9		14106	15561	16371	16555	16173	15904	15962	15439	17137	15681
10-14			17625	18893	19109	18154	18228	18054	17559	17624	18435
15-19				19999	19332	19697	19128	18905	17544	17682	19224
20-24					21163	20423	19856	19734	18669	19952	19921
25-29						21806	19901	19248	19388	20541	20028
30-34							19641	21148	20420	23285	20553
35-39								19231	21575	19602	20640
40-UP									23131	19021	21761
TOTAL	11386	12844	15109	16605	17139	17515	18031	18340	18618	18605	15723

COMPLETED YEARS OF SERVICE	TOTAL										
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	TOTAL
0-4	11564	12951	14657	16061	15783	16572	19251	19678	15968	10500	14239
5-9		14401	16368	18275	18925	18197	18424	16969	16815	23319	17106
10-14			18515	20210	21570	21015	20031	19005	18709	18972	20330
15-19				21555	22293	23259	21831	21268	19573	19017	22123
20-24					23780	23659	22798	21449	19727	20105	22843
25-29						25395	24651	23190	21947	21275	23982
30-34							24268	26354	23817	26180	25205
35-39								25254	25586	24730	25405
40-UP									24614	19021	23123
TOTAL	11564	13217	15969	18638	20282	21241	21692	21944	21239	20546	18042



# NUMBER OF PART-TIME ACTIVE MEMBERS

COMPLETED YEARS OF SERVICE	MALES										TOTAL
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	
0-4	3	99	74	47	19	18	9	4	1	1	275
5-9			17	16	3	3	3	1		1	44
10-14			2	8	8	4	3	3			28
15-19				2	1	5	4	1	1		14
20-24						1	5				6
25-29							1	1			2
30-34								1			1
35-39											1
40-UP									1		
TOTAL	3	99	93	73	31	31	25	11	3	2	371

COMPLETED YEARS OF SERVICE	FEMALES										TOTAL
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	
0-4	43	268	198	118	76	27	22	10	3	1	766
5-9		18	79	26	13	17	7	3	2		165
10-14			11	7	7	3		3	2		33
15-19					1	4	4	1	2	1	13
20-24					1	2	1	2	1	1	8
25-29							1				1
30-34											
35-39											
40-UP											
TOTAL	43	286	288	151	98	53	35	19	10	3	986

COMPLETED YEARS OF SERVICE	TOTAL										TOTAL
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	
0-4	46	367	272	165	95	45	31	14	4	2	1041
5-9		18	96	42	16	20	10	4	2	1	209
10-14			13	15	15	7	3	6	2		61
15-19				2	2	9	8	2	3	1	27
20-24					1	3	6	2	1	1	14
25-29							2	1			3
30-34								1			1
35-39											1
40-UP									1		
TOTAL	46	385	381	224	129	84	60	30	13	5	1357



ANNUAL SALARIES OF PART-TIME ACTIVE MEMBERS  
IN THOUSANDS

COMPLETED YEARS OF SERVICE	MALES										TOTAL
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	
0-4	13	457	415	289	121	103	72	27	2	10	1509
5-9			92	217	20	17	14	5		1	366
10-14			11	99	105	40	20	39			314
15-19				19	14	51	82	11	11		188
20-24						21	75				96
25-29							16	18			34
30-34								32			32
35-39									42		42
40-UP											
TOTAL	13	457	518	624	260	232	279	132	55	11	2581

COMPLETED YEARS OF SERVICE	FEMALES										TOTAL
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	
0-4	198	1314	1109	653	403	165	119	55	15	2	4033
5-9		132	574	191	94	125	52	19	10		1197
10-14			98	75	56	24		25	23		301
15-19					5	44	23	13	10	17	112
20-24						26	6	30	11	12	85
25-29							3				3
30-34											
35-39											
40-UP											
TOTAL	198	1446	1781	919	558	384	203	142	69	31	5731

COMPLETED YEARS OF SERVICE	TOTAL										TOTAL
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	
0-4	211	1771	1524	942	524	268	191	82	17	12	5542
5-9		132	666	408	114	142	66	24	10	1	1563
10-14			109	174	161	64	20	64	23		615
15-19				19	19	95	105	24	21	17	300
20-24						47	81	30	11	12	181
25-29							19	18			37
30-34								32			32
35-39									42		42
40-UP											
TOTAL	211	1903	2299	1543	818	616	482	274	124	42	8312



# AVERAGE SALARIES OF PART-TIME ACTIVE MEMBERS

COMPLETED YEARS OF SERVICE	MALES										TOTAL
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	
0-4	4387	4621	5614	6159	6349	5702	8034	6848	2010	10195	5493
5-9			5405	13560	6727	5668	4653	4724		1420	8321
10-14			5305	12314	13175	10084	6662	13044			11213
15-19				9570	14000	10155	20457	10800	10560		13365
20-24						21100	15028				16040
25-29							15777	18141			16959
30-34								31537			31537
35-39									42016		42016
40-UP											
TOTAL	4387	4621	5569	8549	8394	7479	11160	11975	18195	5808	6959

COMPLETED YEARS OF SERVICE	FEMALES										TOTAL
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	
0-4	4616	4901	5601	5536	5305	6115	5391	5454	4980	1719	5264
5-9		7320	7271	7336	7249	7359	7457	6249	4832		7253
10-14			8917	10709	8049	8079		8312	11749		9153
15-19					4644	11117	5821	13369	5095	16528	8652
20-24					119	13004	6225	14917	11459	12079	10715
25-29							2646				2646
30-34											
35-39											
40-UP											
TOTAL	4616	5054	6186	6086	5699	7262	5798	7443	6975	10109	5814

COMPLETED YEARS OF SERVICE	TOTAL										TOTAL
	UNDER 25	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	OVER 65	
0-4	4601	4826	5605	5713	5514	5950	6158	5852	4238	5957	5325
5-9		7320	6940	9707	7151	7105	6616	5868	4832	1420	7478
10-14			8361	11565	10783	9225	6662	10678	11749		10099
15-19				9570	9322	10583	13139	12085	6917	16528	11096
20-24					119	15703	13561	14917	11459	12079	12997
25-29							9212	18141			12188
30-34								31537			31537
35-39									42016		42016
40-UP											
TOTAL	4601	4942	6035	6889	6347	7342	8032	9105	9564	8388	6127



# SUMMARY OF RETIREES

COMPLETED YEARS OF SERVICE	NUMBER OF MEMBERS								TOTAL
	UNDER 54	55-59	60-64	65-69	70-74	75-79	80-84	OVER 85	
MALE	28	179	226	251	201	153	56	33	1127
FEMALE	10	101	402	656	758	609	321	235	3092
TOTAL	38	280	628	907	959	762	377	268	4219

COMPLETED YEARS OF SERVICE	TOTAL BENEFIT IN THOUSANDS								TOTAL
	UNDER 54	55-59	60-64	65-69	70-74	75-79	80-84	OVER 85	
MALE	27	153	178	156	97	64	23	11	709
FEMALE	8	39	187	268	246	180	96	72	1096
TOTAL	35	192	365	424	343	244	119	83	1805

COMPLETED YEARS OF SERVICE	AVERAGE MONTHLY BENEFIT								TOTAL
	UNDER 54	55-59	60-64	65-69	70-74	75-79	80-84	OVER 85	
MALE	954	857	788	623	481	416	419	332	629
FEMALE	782	384	465	409	325	295	299	306	355
TOTAL	909	687	582	468	358	320	317	309	428



# SUMMARY OF DISABLED

COMPLETED YEARS OF SERVICE	NUMBER OF MEMBERS								TOTAL
	UNDER 54	55-59	60-64	65-69	70-74	75-79	80-84	OVER 85	
MALE	16	8	14	14	1	3	2	2	60
FEMALE	18	18	29	31	17	11	7	4	135
TOTAL	34	26	43	45	18	14	9	6	195

COMPLETED YEARS OF SERVICE	TOTAL BENEFIT IN THOUSANDS								TOTAL
	UNDER 54	55-59	60-64	65-69	70-74	75-79	80-84	OVER 85	
MALE	7	4	7	7		1	1	1	28
FEMALE	6	7	11	11	6	3	2	1	47
TOTAL	13	11	18	18	6	4	3	2	75

COMPLETED YEARS OF SERVICE	AVERAGE MONTHLY BENEFIT								TOTAL
	UNDER 54	55-59	60-64	65-69	70-74	75-79	80-84	OVER 85	
MALE	450	458	471	508	307	310	369	324	453
FEMALE	318	382	368	348	334	310	318	312	345
TOTAL	380	406	402	398	332	310	329	316	379



# SUMMARY OF SURVIVORS

COMPLETED YEARS OF SERVICE	NUMBER OF MEMBERS								TOTAL
	UNDER 54	55-59	60-64	65-69	70-74	75-79	80-84	OVER 85	
MALE	18	10	18	18	14	16	8	6	108
FEMALE	44	32	43	46	42	37	39	34	317
TOTAL	62	42	61	64	56	53	47	40	425

COMPLETED YEARS OF SERVICE	TOTAL BENEFIT IN THOUSANDS								TOTAL
	UNDER 54	55-59	60-64	65-69	70-74	75-79	80-84	OVER 85	
MALE	5	4	6	5	4	4	2	1	31
FEMALE	14	16	16	17	15	11	11	9	109
TOTAL	19	20	22	22	19	15	13	10	140

COMPLETED YEARS OF SERVICE	AVERAGE MONTHLY BENEFIT								TOTAL
	UNDER 54	55-59	60-64	65-69	70-74	75-79	80-84	OVER 85	
MALE	297	357	330	265	258	273	191	209	281
FEMALE	310	486	365	366	355	288	287	266	339
TOTAL	306	455	355	338	331	283	270	257	325



# SUMMARY OF CHILD'S BENEFIT

COMPLETED YEARS OF SERVICE	NUMBER OF MEMBERS								TOTAL
	UNDER 5	5-6	7-8	9-10	11-12	13-14	15-16	OVER 17	
MALE	1	2	1	2	2	4	15	13	40
FEMALE		1	1	2				2	6
TOTAL	1	3	2	4	2	4	15	15	46

COMPLETED YEARS OF SERVICE	TOTAL BENEFITS								TOTAL
	UNDER 5	5-6	7-8	9-10	11-12	13-14	15-16	OVER 17	
MALE	100	200	100	200	200	400	1600	1300	4100
FEMALE		100	100	200				200	600
TOTAL	100	300	200	400	200	400	1600	1500	4700

COMPLETED YEARS OF SERVICE	AVERAGE MONTHLY BENEFIT								TOTAL
	UNDER 5	5-6	7-8	9-10	11-12	13-14	15-16	OVER 17	
MALE	100	100	100	100	100	100	107	100	103
FEMALE		100	100	100				100	100
TOTAL	100	100	100	100	100	100	107	100	102



## SECTION VII

### SUMMARY OF BENEFIT PROVISIONS

Vesting Period	5 years. No benefits are payable unless the member has a vested right.
Final Average Salary	Average of highest 3 consecutive years of earnings.
Normal Form of Benefits	Life only annuity. All benefits cease upon death; however, in no event will the member receive less than the amount of his personal contributions with interest.
Normal Retirement Benefits	Minimum of 30 years service or age 60; maximum of age 70. The retirement benefit is equal to one-sixtieth (1/60) of final average salary for each year of service. The minimum benefit is equal to one-sixtieth (1/60) of \$7,200 for each year of service, for members retired prior to July 1, 1981.
Early Retirement Benefits	Minimum age 55; the retirement benefit is calculated in the same manner as described for normal retirement, but the monthly benefit is reduced $\frac{1}{2}$ of 1% for each month early retirement precedes age 60.
Death Benefits	The death benefit is equal to one-sixtieth (1/60) of final average salary for each year of service accrued at date of death with an actuarial adjustment based on the relation of the member's age at death to his beneficiary's age. In addition, a child's benefit of \$100/month is paid to each child under the age 18 until age 18.
Disability Benefits	The disability benefit is equal to one-sixtieth (1/60) of final average salary for each year of service accrued at date of disability. The minimum disability benefit is equal to one-quarter ( $\frac{1}{4}$ ) of the final average salary.



#### Withdrawal Benefits

With less than 5 years of service, the accumulated employee contributions with interest are returned. With more than 5 years, the member may elect a refund of contributions with interest, or may leave his contributions and retain a vested right to death and retirement benefits.

#### Tax Sheltered Annuity

The Teachers' Retirement System sponsors a tax-deferred annuity program for the benefit of its members. The policies of this program have been established in accordance with the guidelines set by the Internal Revenue Service. The benefits provided by this program are determined solely by the value of the member's account (voluntary contributions plus interest) using actuarial tables provided by the Retirement Board.

#### Contributions

Employee: 6.187% of compensation

\*Employer: 6.432% of compensation

\*This percentage will be increased to 6.463% on October 1, 1981 to provide funding for the purchase of creditable military service during the Vietnam conflict.



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